

Land Product Validation (LPV) Sub-group Meeting



Fernando Camacho – (EOLab/U. Valencia) – Chair
Vice Chair – Vacant
Subgroup meeting
07 Dec 2020

NEXT LPV TELECON 03 Mar 2020

Attendance

Participants

Fernando Camacho

Jaime Nickeson

Zhuosen Wang

Michael Cosh

Pontus Olofsson

Frank Göttsche

Dominique Carrer

Carsten Montzka

Excused

Marie Weiss

Gareth Roberts

Andrew Edwards

Glynn Hulley

Sophie Bontemps

Andrew Edwards

Jadu Dash

Absent

Laura Duncanson

Thomas Nagler

Hongliang Fang

Sylvain Leblanc

Luigi Boschetti

Else Swinnen

Joshua Gray

Tomoaki Miura

John Armston

Mat Disney

Victor Rodríguez-Galiano

Proposed agenda items

- Welcome
- Ian Grant
- CEOS Supersite and Biomass Val Meeting
- CEOS Work Plan
- LPV Work Plan
- Updated CEOS CV Portal
- Status of Working Group
- Focus Area review and update status
- Focus Area Reporting

Ian Grant – *In memory*



Dr. Ian Grant ***Bureau of Meteorology*** **Australia**

Dr. Ian Grant passed away peacefully on 30 November 2019 surrounded by his family and friends.

He served as co-lead of the Surface Radiation focus area group during the last two years.

He contributed to the Albedo validation protocol, and during the last year led the development of the Downwelling Radiation Validation Protocol - A conference paper in the Solar World Congress 2019 was accepted and is now available in our wiki.

The CEOS LPV group will miss him and acknowledge his significant contributions while with us!

CEOS Supersite and Biomass Validation meeting



The screenshot shows a web browser window with the URL ceos.org/meetings/supersites-and-biomass-validation-workshop/. The page features a dark blue navigation bar with links for HOME, ABOUT CEOS, OUR WORK, MEETINGS, DATA & TOOLS, RESOURCES, CONTACT US, and LOGIN. The CEOS logo (Committee on Earth Observation Satellites) is prominently displayed. Below the navigation, there is a search bar and social media icons for Twitter and Facebook. The main content area has a breadcrumb trail: CEOS / Meetings / Supersites and Biomass Validati... The title of the page is "Supersites and Biomass Validation Workshop" in a green font. A blue "Register" button is visible, followed by the text "*Registration closes February 2, 2020" and "Event Dates: March 2nd - 6th, 2020". The section "Working Group on Calibration Validation – Land Product Validation" is highlighted, with details for the host (CSIRO), location (Canberra, Australia), and links for logistics and field trip information. The context section explains the mission's goals and the role of the LPV subgroups.

CEOS / Meetings / Supersites and Biomass Validati...

Supersites and Biomass Validation Workshop

[Register](#)

*Registration closes February 2, 2020
Event Dates: March 2nd - 6th, 2020

Working Group on Calibration Validation – Land Product Validation

Host: CSIRO

Location: Canberra, Australia

[Logistics](#)

[Field Trip Information](#)

Agenda [to be provided]

Context:

CEOS Agencies are operating and planning a number of missions (radar and lidar) that aim to provide measurements of above-ground biomass. A multi-mission group has been formed and has regular calls to coordinate various aspects related to these missions including validation of the biomass products. Specifically, on the biomass validation aspect, a specialist team within the CEOS Working Group on Calibration and Validation (WGCV) Land Product Validation (LPV) subgroup has developed the CEOS WGCV LPV Biomass Protocol promoting good practices for validation of the mission products, with a focus on the lidar missions. Recognizing the importance of in-situ validation data, complementary to the biomass validation protocol, the CEOS WGCV LPV subgroup also undertook an effort to define and evaluate international land-based sites, which systematically collect multiple biophysical measurements important for validation of Earth observation derived products, on a long-term basis. The result of this work is a collection of LPV supersites drawn from well-known and established networks around the globe (https://lpvs.gsfc.nasa.gov/LPV_Supersites/LPVsites.html).

Agenda will be consolidated in January.

Meeting 2nd-6th March, 2020 → Next LPV teleco 2nd Week of March

CEOS WP 2020-2023

New Cal/VAL actions

- CV-20 : Surface Reflectance Round Robin (S3R) (WGCV LPV & IVOS)
- CV-21 : Biomass Intercomparison (BRIX-2) (WGCV LPV)
- CV-22: Digital Elevation Models Intercomparison (DEMIX) (WGCV TMSG)
- CV-23: SAR Calibration inventory and joint use assessment (WGCV SAR)

LPV Work Plan 2019-2022

CEOS LPV Work Plan 2019-2022					
Group	Lead / PoC	ID	Action	Deadline	Description
Chair	F.Camacho	19-LPV-01	Revise hierarchy table including FRM concept	Q3/2019	Revise the LPV table to better describe the fiducial reference
Chair	F.Camacho	AGRI-13	Stablish mechanism to collaborate with GEOGLAM related	Q4/2019	Production of EAV from GEOGLAM will require long-term coc
Chair	F.Camacho	19-LPV-04	Promote a new WGCV SR task (LPV-IVOS) in the context	Q3/2019	FRM4Veg project is developing protocols for fiducial SR colle
Secretaria	J. Nickenson	19-LPV-06	Update web page	Q2/2019	Update the web with the inputs of each FA (once a year)
Secretaria	J. Nickenson	19-LPV-07	To send LPV newsletter to LPV list members	Q3/2019	Prepare and deliver the LPV newsletter (once a year)
Biomass	L.Duncanson	CARB-16-20	Biomass validation paper	Q2/2019	Background paper for the ISSI special issue on the need for b
Biomass	L.Duncanson	CARB-16-20	CEOS WGCV biomass protocol	Q3/2019	CEOS WGCV biomass validation protocol
Biomass	L.Duncanson	CARB-16-20	Establishment of ground-based carbon super-sites	Q4/2019	Establishment of ground-based carbon super-sites
Biophysical	H. Fang	19-LPV-11	Biophysical Workshop at IGARSS	Q3/2019	A workshop to be conducted in IGARSS-19 Japan

Closed , In progress , Delayed

Any new LPV action in the 2019-2022 time frame that you would like to be included in the LPV work plan FA group, please let us know!

This will help us to track our progress and our reporting to WGCV

Updated CEOS cal/val portal

<http://calvalportal.ceos.org/>

CEOS Cal/Val Portal

Cal/Val Home

The CEOS Cal/Val Portal: Calibration and Validation activities around space-borne sensors. [read more](#)

News

- [Newsletter Dec. 2019](#)
- [VH-RODA & CEOS WGCV SAR 2019](#)
- [CEOS WMO-GSICS Workshop](#)
- [Tech. notes on SAR, geometric cal.](#)
- [Updated version of the OLIVE DIRECT database](#)

CEOS WGCV

- [CEOS WGCV](#)
- [WGCV Subgroups](#)
- [WGCV Meetings](#)

Tweets by @CEOS_WGCV

...very interesting session about Analysis Ready Data this morning at the VH-RODA meeting (earth.esa.int/web/sppa/meeti...)

Your comments are desired and welcome!

In order to download/upload documents within the doc_repository in the Portal, you will need to have an account - you can request one by sending email to paolo.castracane@esa.int

Status of Working Group

- Please remember to mention LPV at your meetings and with colleagues, and in presentations. Foster more involvement by encouraging them to join the listserv. This will eventually help to increase our pool of candidates for the future!!!
- Volunteer your name if you are non-European and interested in the Vice-Chair position. You have the best access to the land validation community.
- Position details are included in 10-Jul telecon notes and posted on the wiki.
- We have a potential candidate but no confirmation at this time.
- **AND**, still looking for a volunteer to help with **Snow** focus area.

Annual Web Site and Listserv Review

- Please let's wrap this up!
- **New content is not required**, but review of current content is.
- All focus areas were sent the input needed in April to complete the updates.
- Before sending newsletter to your community, please make sure your listserv information is current. If you know a colleague has moved institutions, make sure we have the updated address. Please add colleagues (post docs or other collaborators) not currently on your list who may not be aware of LPV yet.

Focus Area Review/Update Status

Status of updates by focus area.

Some only need a review, changes are not required, just assure all is current!

Action needed!!

Focus Area	Letter sent to leads	Home Page Review / Update	Products Reviewed/ Updated	Collaboration Review/ Update	References Updated	Listserv review/ update	Letters to community
Landcover	Apr 2019					Oct 2019	
Biophysical LAI/Fapar	Apr 2019	July 2019	July 2019	July 2019	July 2019	Oct 2019	Sep 2019
Surface Rad/Albedo	Apr 2019	Dec 2019	Oct 2019	Dec 2019	Dec 2019	Dec 2019	
LST/Emissivity	Apr 2019	Apr 2019	Apr 2019	Apr 2019	Apr 2019	Apr 2019	
Fire/Burn	Apr 2019						
Soil Moisture	Apr 2019		Feb 2019			Sept 2019	
Phenology	Apr 2019						
Snow Cover	Apr 2019					Oct 2019	
Vegetation Index	Apr 2019	Sep 2019	May 2019	Sep 2019	May 2019	May 2019	
Biomass	Apr 2019	Apr 2019	???	Apr 2019	Apr 2019	Oct 2019	

Focus Area Reports

- Fire/Burn Area
- Phenology
- LST&E
- Surface radiation
- Soil Moisture
- Vegetation Indices
- Snow
- Biomass
- Land Cover
- Biophysical (LAI/FAPAR)

Biophysical

- Website update
 - EPS LAI/FAPAR product added to Product List,
 - SEVIRI LAI/FAPAR information corrected
 - OLCI FAPAR contact directed to ESA Helpdesk
- Abstract deadlines
 - IGARSS'20 Waikoloa, Hawaii, USA. Jul 19-24, 2020. Abstract due: Jan 15, 2020.
 - RAQRS'20 Univ. of Valencia, Spain. Sep 21-25, 2020. Abstract due: Mar 1, 2020
(H. Fang will attend both).
- *Remote Sensing* special issue
 - “Remote Sensing of Biophysical Parameters” (deadline: Nov 27, 2020)
Editors: J. García-Haro (U. Valencia), H. Fang (CAS), and M. Campos-Taberner (U. Valencia)
http://www.mdpi.com/journal/remotesensing/special_issues/Biophysical_Parameters

Fire/Burned Area

Gave a talk at the 2019 AGU session - Satellite Land Surface Product at Medium, High, and Very High Resolution: Algorithms, Validation, and Applications I on the

- Global validation of the NASA MODIS and VIIRS burned area products

Phenology

Surface Radiation (1/5)

- Very sad news. Our co-lead Dr. Ian Grant passed away.
- Product list on LPV website

We found some typo in the data links. Some products have updated the data portal to access the data.

New products:

The C3S/COPERNICUS AVHRR Surface Albedo /LAI /FAPAR v1.0 is now released to public via the CDS see links below for:

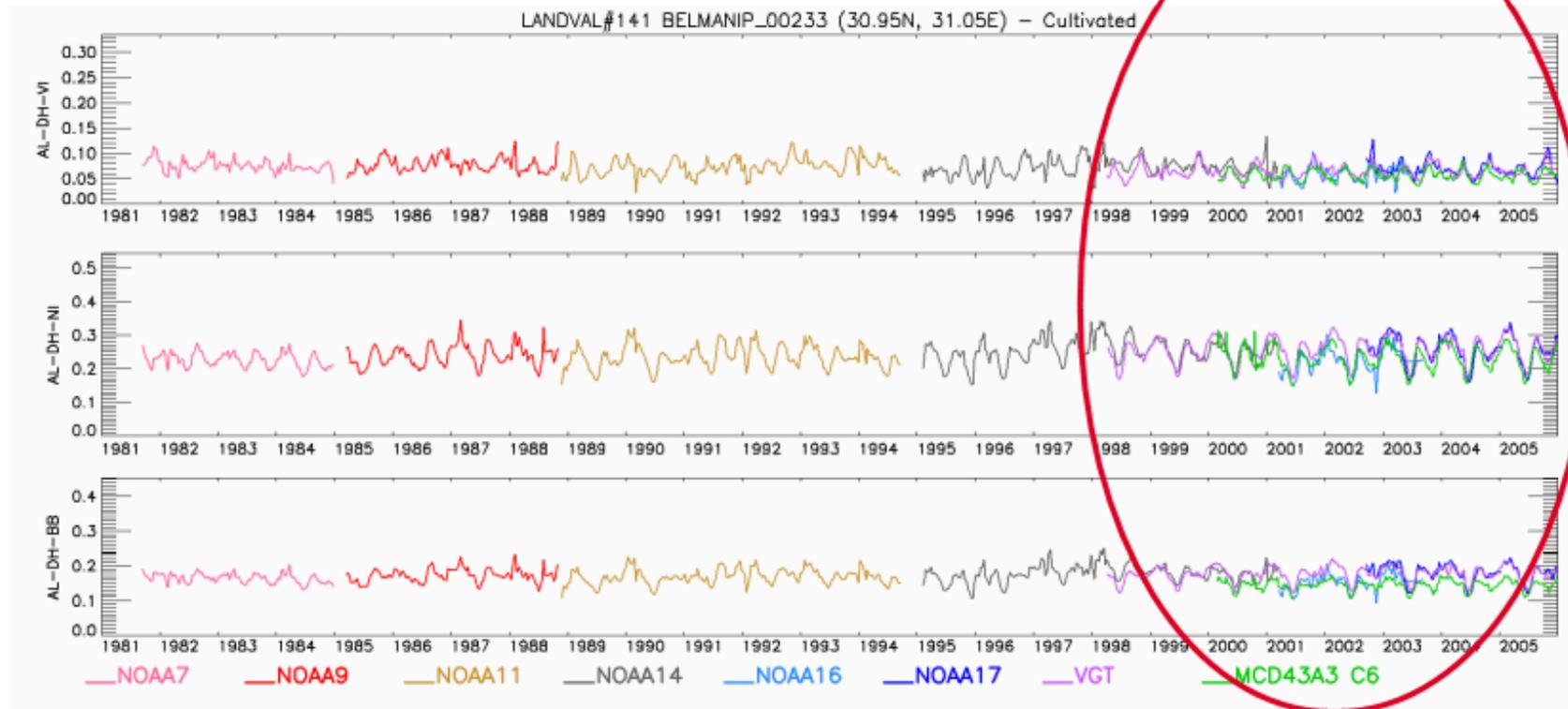
Surface albedo: <https://cds.climate.copernicus.eu/cdsapp#!/dataset/satellite-albedo?tab=overview>

LAI/FAPAR: <https://cds.climate.copernicus.eu/cdsapp#!/dataset/satellite-lai-fapar?tab=overview>

VGT Surface Albedo v1.0 was already available -> 35years of surface albedo available with AVHRR+VGT v1.0.

Surface Radiation (2/5)

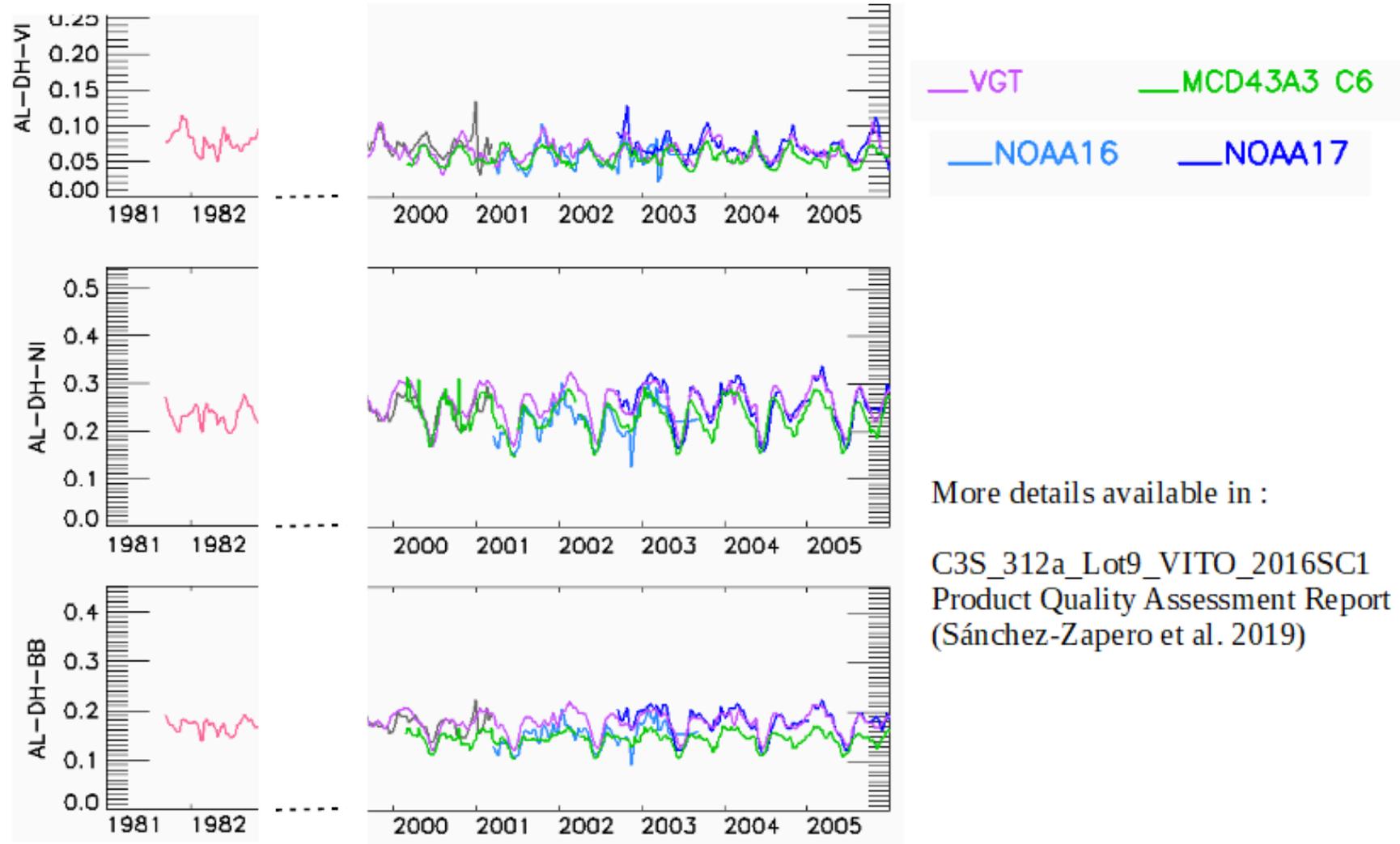
Comparison with MODIS (cultivated site)



Courtesy : J. Sánchez-Zapero (EOLAB)

Surface Radiation (3/5)

Copernicus Climate Change Service (C3S/ECMWF)

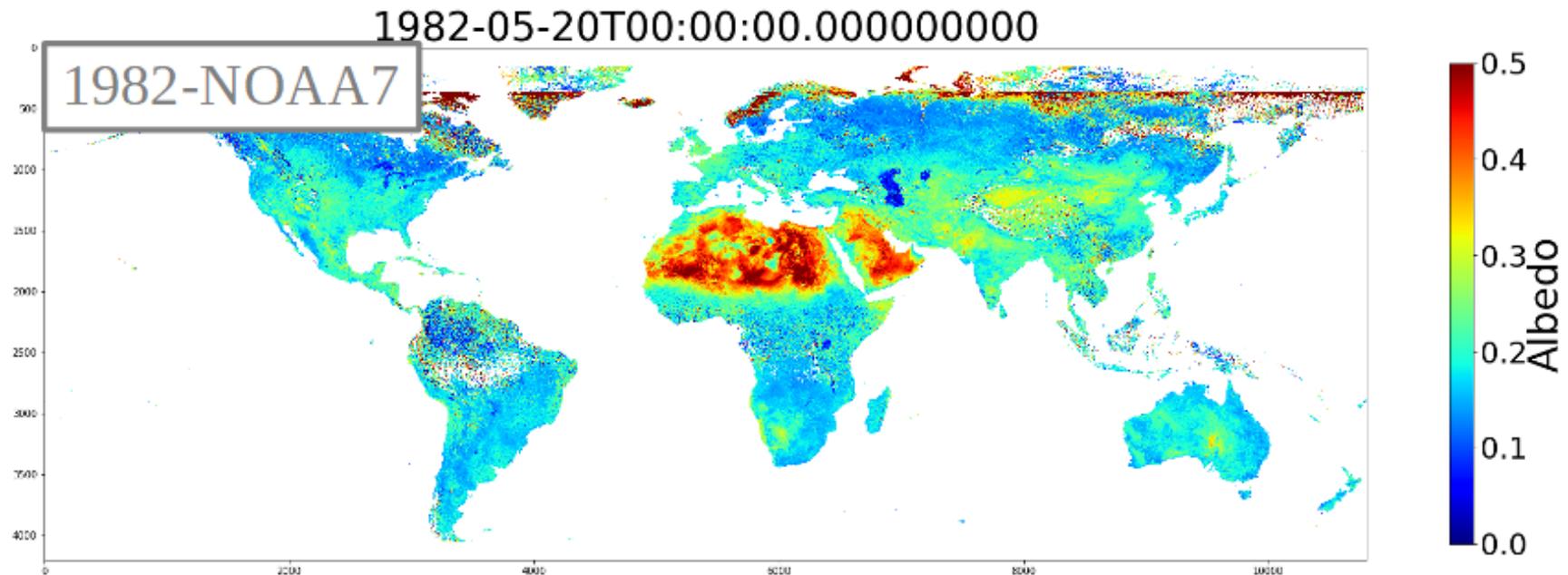


Surface Radiation (4/5)

Copernicus Climate Change Service (C3S/ECMWF)

AVHRR-NOAA7 Full globe albedo
- No Snow mask – V1 (312a - Lot9)

Resolution : 4km x 4km



- **Past meeting:**

D. Carrer attended AGU 2019 and gave an oral presentation entitled “35-years of Land Surface Albedo and 15-years of Down-Welling Short-Wave Radiation retrievals from Earth Observations in the framework of two European space programs”

- **Upcoming meetings**

16th Baseline Surface Radiation Network (BSRN) Scientific Review and Workshop – June 29-July3, 2020, Bologna, Italy

International radiation Symposium – July 6-10, 2020, Thessaloniki, Greece

- **Special issues:**

- “Remote Sensing of Land Surface and Earth System Modelling”. For more information about the Special Issue, please see (P.de Rosnay):

https://www.mdpi.com/journal/remotesensing/special_issues/Land_Surface_Earth_System_Modeling

- Extended deadline (June 2020) for Remote Sensing special issue on "Recent Advances in Satellite Derived Global Land Product Validation". For more information about the Special Issue, please see:

https://www.mdpi.com/journal/remotesensing/special_issues/global_land_product_val?view=compact&listby=date

LST & Emissivity

Kick off next week for the ESA LST AOD WV

Participated in the 2019 Fall AGU Meeting Session (San Francisco, Dec 2019): 'Taking the temperature of the Earth: uncertainties, trends, and applications across all Earth surface domains'.

Soil Moisture (1/2)

SMOS

- Celebrating 10 years in 2020!

SMAP

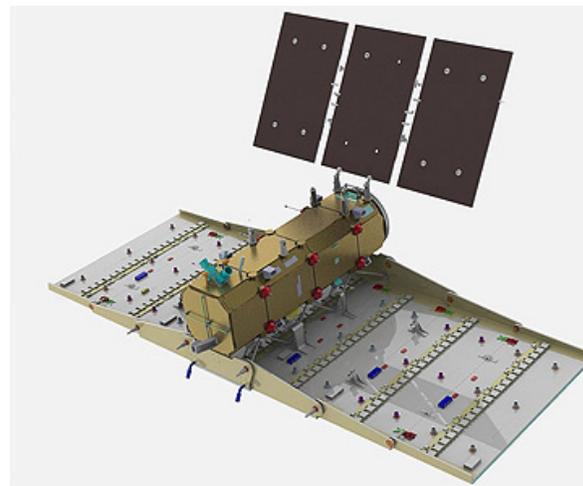
- Field Experiment: SMAPVEX19/20 will support vegetation water content product as well, scheduled for Summer and Fall Deployment.

NISAR

- The NASA-ISRO Synthetic Aperture Radar mission (**~mid-2022**) will monitor in L-band via radar at a high resolution (~100m) nominally every 12 days (2 overpasses/12 days).
- L+S ASAR flights Spring 2020?
- Science Team Selections, 3 with soil moisture focus (~\$1 million in 2020 for development of SM algorithms)

AMSR3

- Set for launch in 2022



Soil Moisture (2/2)

Other

- Field campaign summer 2019 completed: SARSense C- and L-band SAR in support for the ESA mission candidate ROSE-L
- U.S. National Soil Moisture Network Strategy near completion,
- Good Practices Protocol: Closed for contributions, filling gaps, homogenizing content
- New release of the ISMN python package, further info on: <https://ismn.readthedocs.io/en/latest/>
- New release of the pytesmo soil moisture validation toolbox: <https://pytesmo.readthedocs.io/en/latest/?badge=latest>. In addition to EO-based soil moisture products also models are implemented for cross-comparison (GLDAS Noah, ERA Interim)

Workshops:

- Earth Explorers for Climate - The contribution from SMOS. 18 - 20 March 2020, at the Eden Project in Cornwall, UK. In celebration of the 10th anniversary of the SMOS mission
- National Soil Moisture Workshop (U.S.) August 12-13, 2020, Beltsville, MD.
- 6th Satellite Soil Moisture Validation and Application Workshop, Sept 15-17, 2020, Perugia, Italy ([site](#))
- 7th Satellite Soil Moisture Validation and Application Workshop, Fall 2022, New Orleans, USA

Vegetation Indices

Invited talk given at the AGU session: Satellite Land Surface Product at Medium, High, and Very High Resolution: Algorithms, Validation, and Applications I

Snow

Above Ground Biomass

- Currently in Australia trying to close out the aboveground biomass protocol do
- Attending the Supersites and Biomass Validation Workshop in Canberra in Ma
- GEDI data will be available to the public this month!

Land Cover

- Currently in the process of writing version 3 of the GFOI Methods and Guidance document. Pontus will be attending a meeting of the authors next week in Bilbao, Spain. More will be reported next time.